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Large Angle CMB Fluctuations from Cosmic Strings with a Comological Constant

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abstract In this paper, we present results for large-angle CMB anisotropies generated from high resolution simulations of cosmic string networks in a range of flat FRW universes with a cosmological constant. Using an ensemble of all-sky maps, we compare with the COBE data to infer a normalization (or upper bound) on the string linear energy density μ. For a flat matter-dominated model ($\Omega_M = 1$) we find $G\mu/c^2 \approx 0.7\times10^{-6}$, which is lower than previous constraints probably because of the more accurate inclusion of string small-scale structure. For a cosmological constant within an observationally acceptable range, we find a relatively weak dependence with $G\mu/c^2$ less than 10% higher.